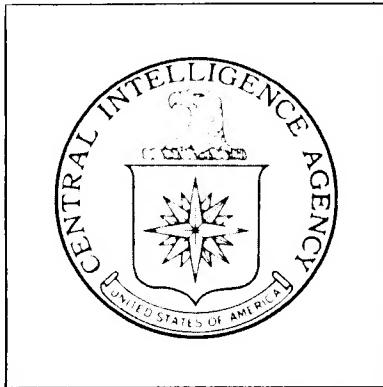


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DIRECTORATE OF
INTELLIGENCE

Industrial Facilities
(Non-Military)

Basic Imagery Interpretation Report

Nampo Phosphate Fertilizer Plant

Nampo, North Korea

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RCS 13/0020/71
DATE 17 MARCH 1971
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PAGES 8

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CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
Imagery Analysis Service

INSTALLATION OR ACTIVITY NAME		COUNTRY	
Nampo Phosphate Fertilizer Plant		KN	
UTM COORDINATES	GEOGRAPHIC COORDINATES	COMIREX NO.	NIETB NO.
51SYC126912	38-44-25N 125-26-15E	None	None
MAP REFERENCE			
USNOO. USATC, Series 200, Sheet M0380-7HL, 4th ed, Nov 68, Scale 1:200,000			
(SECRET)			
LATEST IMAGERY USED		NEGATION DATE (If required)	
		NA	

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ABSTRACT

Analysis of the Nampo Phosphate Fertilizer Plant on high-resolution photography shows that superphosphate fertilizer is the primary product of the plant and sulfuric acid is a secondary product. It is one of two phosphate fertilizer plants in North Korea.

The major facilities of the superphosphate fertilizer and sulfuric acid production areas of the Nampo plant were complete when they were first observed in December 1962. Since that time, facilities have been constructed in an unidentified processing area and the sulfuric acid plant has been expanded. The plant was seen in operation from December 1962 through February 1964. The superphosphate fertilizer area has been inactive when observed since June 1964. When seen on photography, the sulfuric acid plant was inactive from June 1964 through November 1968, was operating from December 1968 through July 1969, and has remained inactive since August 1969. The cut-off date for information is March 1970.

This report includes a photograph, a process flow chart and a detailed line drawing of the plant, and a chronological summary of construction and operational status.

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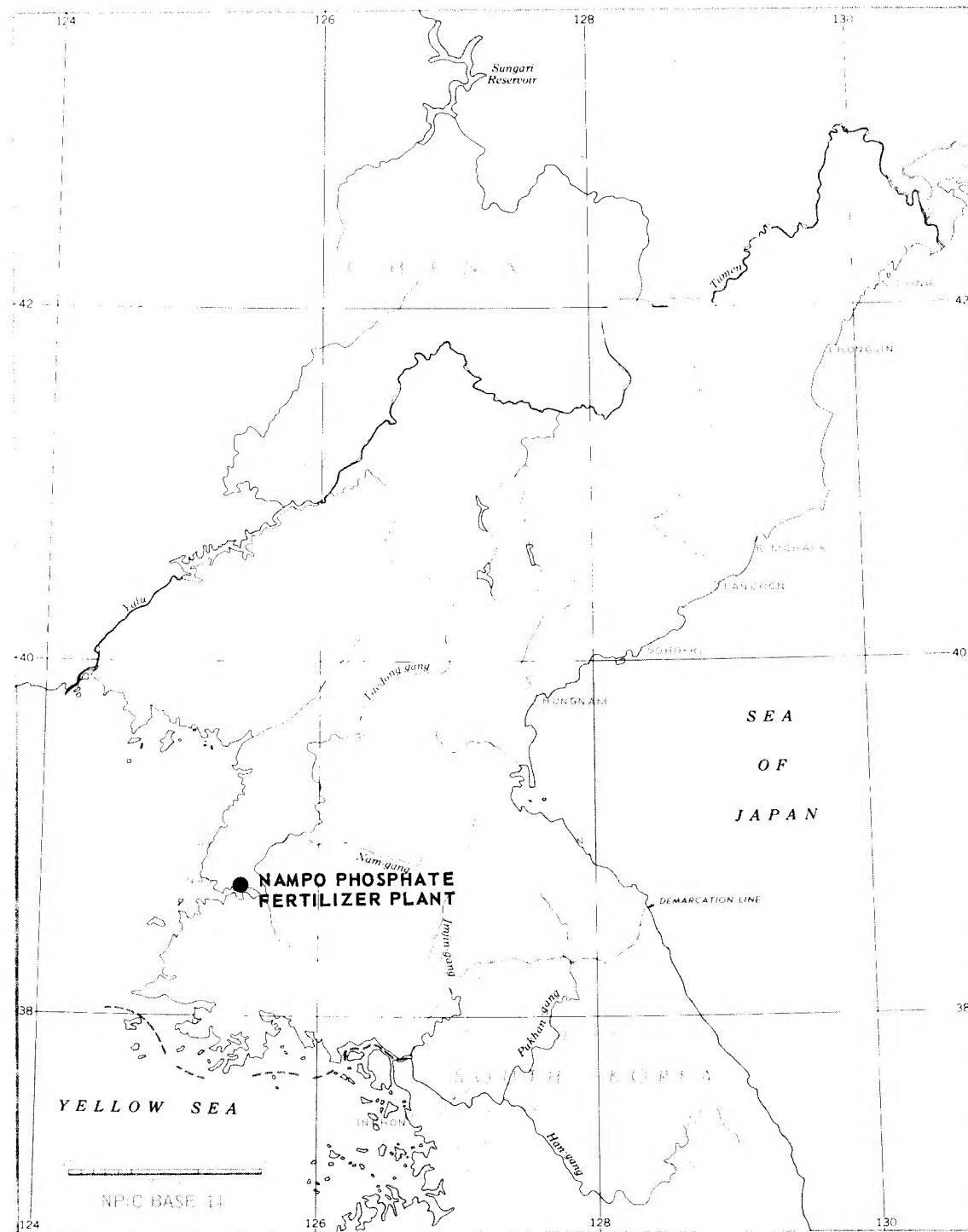


FIGURE 1. LOCATION MAP.

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INTRODUCTION

The Nampo Phosphate Fertilizer Plant is collocated with the Nampo Copper and Zinc Plant [] in the eastern suburbs of Nampo, Pyongan-namdo Province (see Figure 1). It is one of two phosphate fertilizer plants in North Korea. The other is located within the Hungnam Nitrogen Fertilizer Plant [] 1/ Electric power is supplied to the Nampo plant from the regional grid through a transformer substation located within the Nampo Copper and Zinc Plant.

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BASIC DESCRIPTION

The plant occupies a rectangular area approximately 1,300 by 1,085 feet and contains about 30 acres (see Figures 2 and 3). No security measures are observed. The Taedong River forms a boundary on the north, east, and southeast sides of the plant. The Nampo Copper and Zinc Plant is adjacent to the south and west sides. The plant is served by a rail spur from the Pyongyang to Nampo rail line.

The primary function of the plant is the production of superphosphate fertilizer. The sulfuric acid necessary for this production is also manufactured at the plant. The process flow for the products of the plant is shown in Figure 4.

When the plant was first covered on overhead photography in December 1962, the major facilities of the phosphate fertilizer and sulfuric acid production areas were complete. Between December 1962 and July 1964, an unidentified processing area was constructed and three support buildings were added to the plant. By March 1965 an additional pyrite roaster had been added to the sulfuric acid production area. No new construction was observed from March 1965 to March 1970.

The plant was in operation when first observed in December 1962. Fumes were emanating from the waste-gas dispersal tower of the sulfuric acid plant and from the mixing section of the phosphate fertilizer plant. It remained in operation on photography of May 1963 and February 1964. On 19 photographic missions from June 1964 to November 1968, no production activity was observed within the plant but the facilities appeared to be well maintained. On four photographic missions from December 1968 to July 1969, the sulfuric acid area was again in operation but no activity was seen in the superphosphate area. The entire plant was inactive when seen on four photographic missions from August 1969 to March 1970.

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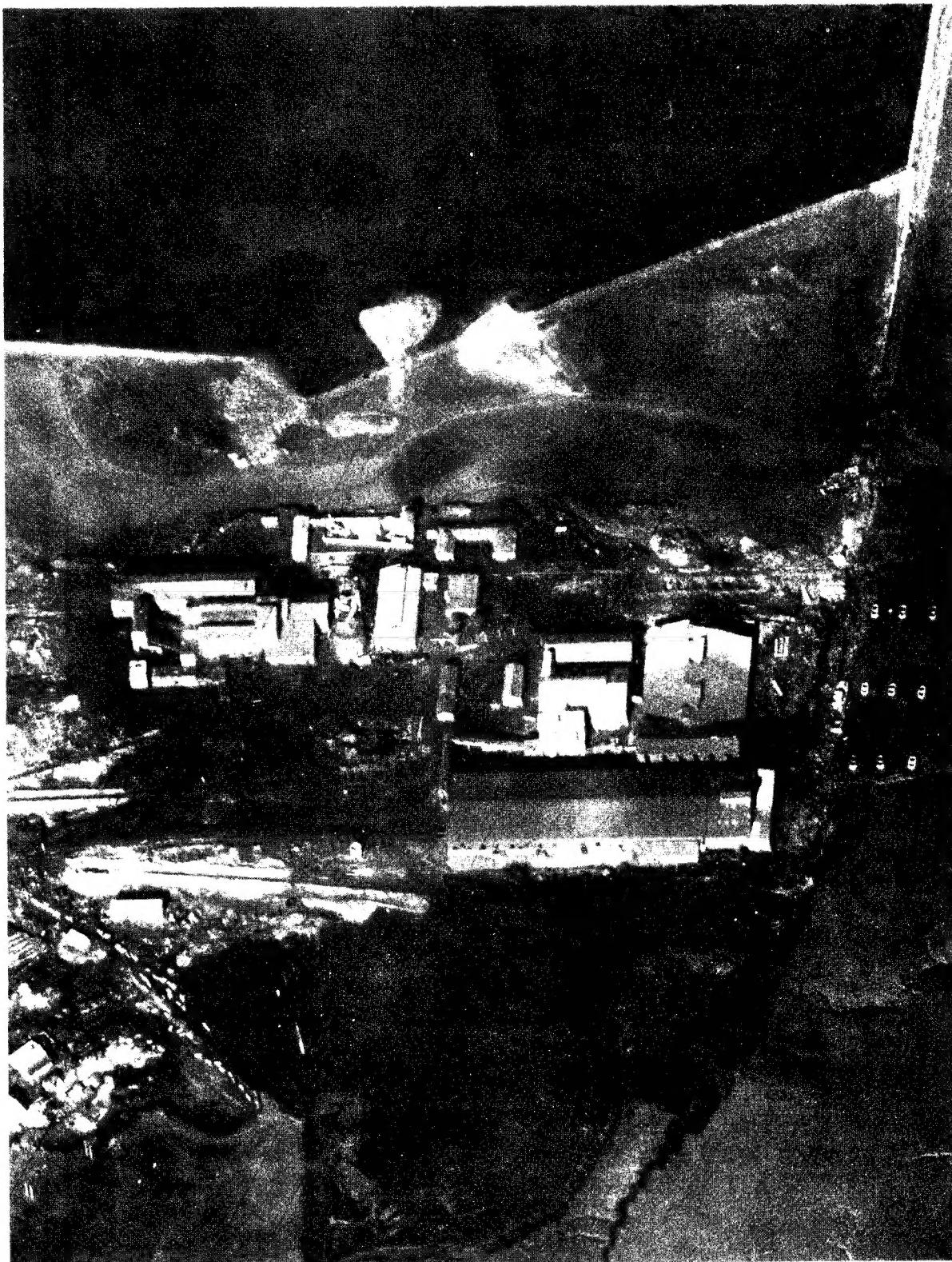


FIGURE 2. PHOSPHATE FERTILIZER PLANT, NAMPO, NORTH KOREA.

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CONSTRUCTION CHRONOLOGY

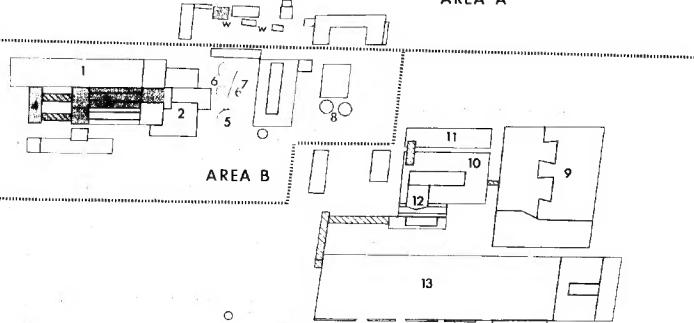
- PRIOR TO DECEMBER 1962
- DECEMBER 1962 TO JULY 1964
- JULY 1964 TO MARCH 1965



KEY TO ANNOTATIONS

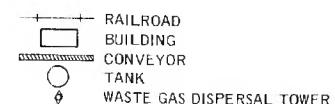
AREA	DESCRIPTION
A	UNIDENTIFIED PRODUCTION
B	SULFURIC ACID PRODUCTION
C	1. PYRITE ORE RECEIVING AND STORAGE 2. PYRITE ORE PREPARATION 3. ROASTER BUILDING 4. PYRITE WASTE STORAGE BUILDING 5. CONVERTER UNIT 6. ACID AND DRYING TOWERS (2) 7. WASTE GAS DISPERAL TOWER 8. ACID STORAGE TANKS (2) 9. SUPERPHOSPHATE FERTILIZER PRODUCTION 10. ORE RECEIVING AND STORAGE BUILDING 11. CRUSHING BUILDING 12. ORE WASTE SHIPPING BUILDING 13. DENS, STORAGE AND SHIPPING BUILDING

AREA A



AREA C

NAMPO COPPER AND ZINC PLANT



NOTE: LINE DRAWING BASED ON UNRECTIFIED PHOTOGRAPHY.
RED OUTLINE INDICATES PROCESSING EQUIPMENT.

FIGURE 3. PHOSPHATE FERTILIZER PLANT, NAMPO, NORTH KOREA.

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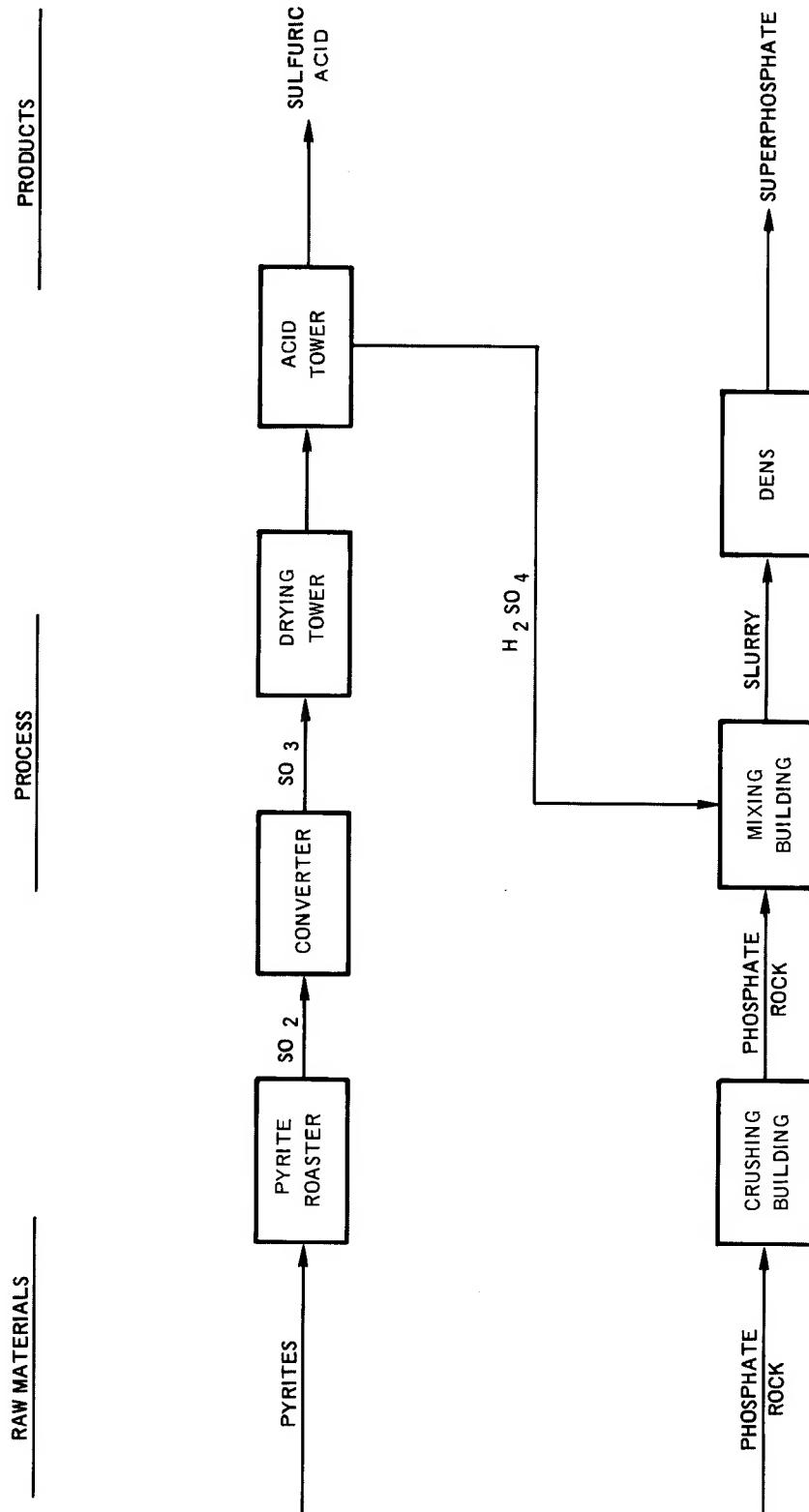


FIGURE 4. PROCESS FLOW AT NAMPO PHOSPHATE FERTILIZER PLANT.

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Map

USNOO. US Air Target Chart, Series 200, Sheet M0380-7HL, 4th edition, November
1968, Scale 1:200,000 (SECRET)

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Document

I. CIA. RCS-13/0235/69, Hungnam Nitrogen Fertilizer Plant, Hungnam,
North Korea, June 1969, (TOP SECRET RUFF)

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Requirement

COMIREX NO2
Support Number 421953

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